REMARKS

Reconsideration of this application, as presently amended, is respectfully requested. Claims 2 and 5-7 are now pending in this application, claims 3 and 4 having been cancelled by the present Amendment. Claims 2-7 were rejected.

Claim Objection

Claim 2 was objected to for informalities. Specifically, the Office Action asserts that, in the last line of claim 2, "in pair" should be --in pairs--. Claim 2 has been amended in the manner suggested by the Examiner. Accordingly, withdrawal of the objection to claim 2 is earnestly solicited.

Claim Rejection-35 U.S.C. §102

Claims 2-7 were rejected under 3 U.S.C. §102(b) as being anticipated by **Nagase et al.** (US 2003/0158576). For the reasons set forth in detail below, this rejection is respectfully traversed.

Initially, it is noted that claim 2 has been amended to include the features of dependent claims 3 and 4. As will be discussed in detail below, it is respectfully submitted that **Nagase** does not disclose or suggest certain features recited in claim 2 prior to the present amendments. Further, as will be discussed below, **Nagase** also does not disclose or suggest certain features recited in claims 3 and 4, which features are now incorporated into claim 2.

The Nagase et al. reference

Nagase discloses a surgical therapeutic instrument including a therapeutic part 3 having gripping members 12, 14 (i.e., a first therapeutic part 12 and a second therapeutic part 14) at one end and a manipulating part 4 at an opposite end. As shown in Figs. 2-4 the surgical instrument includes a first driving rod 5 that opens and closes the gripping members 12, 14 (see paragraph [0069], particularly lines 7-9). Furthermore, the surgical instrument includes a second driving rod 6 and a third driving rod 7 that turn the therapeutic part 3 (see paragraph [0069], particularly lines 9-11).

The operation of *opening and closing the gripping members 12, 14* by moving the driving rod 5 is described in paragraph [0104]. More specifically, as described in paragraph [0104], when the therapeutic part 3 (consisting of gripping members 12, 14) is closed and the first driving rod 5 is moved forwardly, the proximal portion of the second gripping member 14 is pulled backward by the first connecting member 16 and the second connecting member 18. As a result, the gripping member 14 is turned about a first opening and closing pivotal pin 13 with respect to the gripping part 12, whereby the therapeutic part 3 is opened.

Conversely, when the therapeutic part 3 is open and the first driving rod 5 is moved backwardly, the proximal portion of the second gripping member 14 is moved forward through a first connecting member 16 and a second connecting member 18. As a result, the gripping member 14 is turned about the first opening and closing pivotal pin 13 with respect to the gripping member 12, whereby the therapeutic part 3 is closed.

Paragraphs [0101]–[0103] describe how the therapeutic part 3 may be *moved in the upward, downward, leftward and rightward directions*. More specifically, when the therapeutic part 3 is in the state of being turned up in Figs. 2 and 3, and the second and third driving rods 6, 7 are moved forwardly at the same time, a bent portion 12a of the gripping member 12 is forced forwardly through a second turning plate 21, whereby the gripping member 12 is turned. The gripping member 14, which is connected to the gripping member 12 by the first opening and closing pivotal pin 13, is also turned in the same direction as the gripping member 12.

Paragraphs [0102] and [0103] of **Nagase** describe how the *entire therapeutic part 3* may be turned to the left or right about a pivotal shaft 9 by moving one of the second and third driving rods 6, 7 in a forward direction and the other of the driving rods in a backward direction.

As noted in paragraph [0105], the *entire therapeutic part 3* is moved upward, downward, rightward or leftward by the movement of the second and third driving rods 6, 7.

For reference purposes, the Examiner's asserted correspondence between the elements of claim 2 (prior to the current amendments) and the **Nagase** reference is provided below.

2. A manipulator with multiple degrees of freedom for surgery driven by a driving means, comprising:

a pair of gripping members (*first therapeutic part **12**, second therapeutic part **14***);

a first axis (*longitudinal axis of the inserting part 2???*) that connects both the gripping members rotatably;

a second axis (*pivotal shaft **9***) existing on an imaginary plane substantially perpendicular to the first axis;

a first link mechanism (*parts that connect first driving rod **5** to the gripping member **14***) for converting a drive power of the driving means to a rotary motion of one gripping member around the first axis;

a second link mechanism (*parts that connect first supporting part **8** to the gripping member **12***) for converting a drive power of the drive means to a rotary motion of the other gripping member around the first axis; and

a third link mechanism (*parts that connect second driving rod **6** and third driving rod **7** to bent portion **12a** of first gripping member **12***) for converting a drive power of the driving means to a rotary motion of both the gripping members around the second axis,

wherein each of the link mechanisms is a mechanism in which a plurality of rigid links are connected in pair.

Patentability Arguments

As will be discussed below, first, it is respectfully submitted that **Nagase** does not disclose the combination of the claimed "*a first axis that connects both the gripping members rotatably*"; "*a first link mechanism for converting a drive power of the driving means to a rotary motion of one gripping member around the first axis*"; and "*a second link mechanism for*

converting a drive power of the drive means to a rotary motion of the other gripping member around the first axis".

Initially, it is not entirely clear what element the Examiner considers to correspond to the claimed "first axis that connects both the gripping members rotatably". More specifically, in Item 3, lines 3-4 of the Office Action, regarding the "first axis that connects both gripping members rotatably," the Examiner cites paragraph **[0070]**, line 8 of **Nagase** and states "rotate and close about a longitudinal axis". However, line 8 of paragraph [0070] refers to a longitudinal axis of an inserting part 2 (see, e.g., inserting part 2 in Fig. 1). It is not clear how a longitudinal axis of the inserting part 2 "connects both the gripping members rotatably". Further, it is not clear how the gripping members 12, 14 of **Nagase** undergo rotary motion around the longitudinal axis of the inserting part 2.

Second, in the Office Action, the Examiner asserts that the series of links connecting the *first driving rod 5 to the gripping member 14* correspond to the claimed "first link mechanism" (see Item 3, lines 5-6 of Office Action).

As discussed above, as described in paragraph **[0104]** of **Nagase**, when the therapeutic part 3 (consisting of gripping members 12, 14) is closed and the *first driving rod 5* is moved forwardly, the proximal portion of the *second gripping member 14* is pulled backward by the first connecting member 16 and the second connecting member 18. *As a result, the gripping member 14 is turned about a first opening and closing pivotal pin 13* with respect to the gripping part 12, whereby the therapeutic part 3 is opened.

Accordingly, it would appear that the first opening and closing pivotal pin 13 is an axis that connects the gripping members 12, 14. However, although the gripping member 14 rotates about the axis 13, it is submitted that the other gripping member 12 does ***not*** rotate about the axis 13. More specifically, first, **Nagase** does not disclose or suggest that the gripping member 12 rotates about the axis 13. Second, as shown in Fig. 4, it is shown that the gripping member 12 does *not* rotate with respect to the axis 13, while the gripping member 14 rotates about the axis 13 relative to the gripping member 12.

Therefore, if the axis 13 is considered the "first axis", then **Nagase** does ***not*** disclose "a second link mechanism for converting a drive power of the drive means to *a rotary motion* of the *other gripping member* around the first axis" because gripping member 12 does ***not*** rotate about the axis 13.

It is noted that, in the rejection, the Examiner asserts that the links that connect *the first supporting part **8** to the gripping member **12*** correspond to the "second link mechanism" (see line 8 of Item 3 of Office Action). However, paragraph [0072] of **Nagase** discloses that the gripping member 12 is upwardly and downwardly pivotally supported *by a first pivotal pin 11*. Moreover, paragraph [0101] discloses that both the first and second gripping members 12, 14 are turned or *rotated together* about the first pivotal pin 11.

Therefore, if the first pivotal pin 11 is considered to correspond to the "first axis" around which the gripping member 12 rotates, both of the gripping members 12, 14 would be *rotated together* around this axis. However, unlike the claimed invention, there are not two separate link

mechanisms (i.e., "first link mechanism" and "second link mechanism") to achieve this rotation of the gripping members 12, 14.

Accordingly, if the first pivotal pin 11 is considered to correspond to the claimed "first axis" then **Nagase** does not disclose the claimed first and second link mechanisms that rotate the first gripping member and the other gripping member, respectively, around the first axis. In other words, **Nagase** does not disclose or suggest separate link mechanisms for separately (or individually) rotating each of the first gripping member 12 and second gripping member 14.

Accordingly, **Nagase** does not disclose or suggest "*a first axis that connects both the gripping members rotatably*"; "*a first link mechanism for converting a drive power of the driving means to a rotary motion of one gripping member around the first axis*"; and "*a second link mechanism for converting a drive power of the drive means to a rotary motion of the other gripping member around the first axis*".

With respect to the features of claim 3, which are now recited in claim 2, the Examiner considers that the manipulating part 4 and the backbone 61 of **Nagase** correspond to the "first supporting body" and the "second supporting body", respectively. Applicants respectfully disagree with the Examiner's interpretation of **Nagase**.

More specifically, the first supporting body of the claimed manipulator is a member to support the gripping members with the first axis, which connects the gripping members rotatably. However, in **Nagase's** manipulator, the axis (13) connecting the gripping members (12, 14) is not supported. Thus, **Nagase** does not disclose the "first supporting body". In

addition, the "second supporting body", which is a member to support the first supporting body, is also not disclosed in **Nagase**.

With respect to the features of claim 4, which are now recited in claim 2, the Examiner considers that the members 5, 18 and 16 of **Nagase** correspond to the first to third links of the "first link mechanism", and that the members 8, 11 and 10 of **Nagase** correspond to the first to third links of the "second link mechanism". Applicants respectfully disagree with the Examiner's interpretation of **Nagase**.

More specifically, as discussed above, **Nagase's** manipulator does not have the first and second supporting bodies for supporting the first and third links slidably in the first place. In fact, the members 16 and 11 of **Nagase**, which are considered to correspond to the first links in the claimed manipulator, are not supported slidably.

The present invention with the specified features of claims 3 and 4 achieves, for example, the following advantage: 'The stability of the motion is increased and the transmission loss of a drive power is reduced because the first and second links are supported slidably by the supporting body. Because the first link is supported by the same first supporting body as the first axis (the gripping member), a positional relationship between the sliding direction of the first link and the axial direction of the first axis is always kept constant even if the first supporting body rotates around the second axis, thereby improving the stability of motion of the gripping member." Furthermore, "Even under a condition in which the other motions than a motion in the sliding direction are restrained, the first link and second link can be located at an appropriate

positional relation depending on a rotation angle of the first supporting body because the third link exists. Further, in a condition in which the first supporting body is bent, that is, the sliding directions of the first link and second link are unparallel, the reciprocating motion of the second link is convened in its direction through the third link and transmitted to the first link". See paragraphs [0021] and [0022] of the specification.

Anticipation under §102 is established ***only if all the elements*** of an invention, as stated in the claim, are identically set forth in *a single* prior art reference. Moreover, it is not sufficient that each element be found somewhere in the reference, the elements must be ***arranged as in the claim***. *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 703 F.2d 1452, 1458 (Fed.Cir. 1984). It is respectfully submitted that **Nagase** does not disclose or suggest all elements recited in claim 2 arranged as in the claim. Accordingly, claim 2, and claims 5-7 which depend therefrom, patentably distinguish over the **Nagase** reference. Reconsideration and withdrawal of the rejection under §102 are respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

/WILLIAM M. SCHERTLER/

William M. Schertler
Attorney for Applicants
Registration No. 35,348
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

WMS/ar